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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,176	06/30/2003	Steven H. Voldman	BUR920030009US1	1175

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EXAMINER	
KITOV, ZEEV	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,176	VOLDMAN, STEVEN H.	
	Examiner	Art Unit	
	Zeev Kitov	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/31/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 - 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 6,624,660) in view of Lin et al. (US 6,473,282). Li et al. disclose following elements of Claim 1 and 7 including an integrated circuit having: a substrate (P-SUB in Fig. 2B), a power rail (Vss in Fig. 3) and a latchup control isolation network electrically coupled to the substrate, the latchup control isolation network adapted to electrically isolate the circuit from the power rail (col. 6, lines 36 – 67). It further discloses an active clamp network (elements 58, 64 and 52 in Fig. 3). However, it does not disclose isolating a sea of gates. Lin et al. disclose a sea of gates (elements 1 and 2 in Fig. 1, 8, 9, 10) being isolated by the latchup control isolation network (elements 3, 31 and 32 in Fig. 3). Both references have the same problem solving area, namely providing the latchup isolation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Li et al. solution by adding the sea of gates according to Lin et al., because as well known in the art, in modern electronics the circuit block include plurality of gates; so the latchup protection circuit should being able to isolate the whole block with plurality of gates.

Regarding Claim 12, the step of electrically connecting one of a latchup control isolation network and an active clamp network to the substrate in inherent in the structure shown in Fig. 2B; and turning off the latchup control isolation network, when connected in the prior step, thereby isolating the power rail from the protected circuit (col. 6, lines 36 – 67). Lin et al disclose the sea of gates. As to a motivation for combining together the two references, it is the same as above.

Regarding claims 2, 8 and 13, Li et al. disclose the substrate having a voltage potential (Vbb in Fig. 2B, col. 6, lines 27 - 35).

Regarding Claims 3, 9, 14 and 17, Li et al. disclose the latchup control isolation network being turned off thereby isolating the protected circuit block from the power rail when the voltage potential equals or is greater than a first predetermined value (col. 6, lines 36 – 67).

Regarding Claims 4, 10, 15 and 18, Li et al. disclose the first predetermined value as being Vdd + Vbe (col. 6, lines 5 – 15).

Regarding Claims 5, 11, 16 and 19, the explanation given by Li et al. (col. 6, lines 5 – 15) regarding the NMOS transistor (element 14 in Fig. 2A and B) cab be extended to the PMOS transistor (element 12 in Fig. 2A and B) with changing Vdd + Vbe to Vss – Vbe due to well known in the art mirror identity of NMOS/PMOS, NPN/PNP schematics. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Li et al. solution by adding the second predetermined value of Vss – Vbe for protection against latchup developing from the PNP parasitic transistor, because as well known in the art, due to the mirror identity of

NMOS/PMOS, NPN/PNP schematics the same considerations of the latch up process initiation are valid for PNP parasitic transistor with Vss voltage playing the same role as Vdd for NPN transistor.

Regarding Claim 6, Li et al. disclose the latchup control isolation network including the inverter circuit (element 64 in Fig. 3 playing the role of inverter with regard to element 52).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Z.K.
08/18/2004

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